

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Ekkehard LEBERER et al.

Title: POTASSIUM CHANNEL
MUTANTS OF THE YEAST
SACCHAROMYCES CEREVISIAE
AND THEIR USE FOR SCREENING
EUKARYOTIC POTASSIUM
CHANNELS

Appl. No.: Unassigned

Filing Date: 1/11/2001

Examiner: Unassigned

Art Unit: Unassigned

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination of the above-identified application, Applicant
respectfully request that the following amendment be entered into the application:

IN THE CLAIMS:

3. (Amended) The process as claimed in [one or more of claims 1 and 2]
claim 1, wherein the eukaryotic potassium channel is a human potassium channel.
4. (Amended) The process as claimed in [one or more of claims 1 to]
claim 3, wherein the eukaryotic potassium channel is a HERG1, Kv1.5 or gpIRK1.
5. (Amended) The process as claimed in [one or more of claims 1 to]
claim 4, wherein the eukaryotic potassium channel is mutated.

6. (Amended) The process as claimed in [one or more of claims 1 to] claim 5, wherein the eukaryotic potassium channel is present in a yeast expression plasmid.

7. (Amended) The process as claimed in [one or more of claims 1 to] claim 6, wherein the mutated *S. cerevisiae* cell expresses constitutively a growth reporter.

8. (Amended) The process as claimed in [one or more of claims 1 to] claim 7, wherein a substance to be tested, which has an effect on the eukaryotic potassium channel, inhibits the growth of the mutated *S. cerevisiae* cell.

9. (Amended) The process as claimed in [one or more of claims 1 to] claim 7, wherein the effect of a substance to be tested on the eukaryotic potassium channel is determined by measuring the cell count of the mutated *S. cerevisiae* cells.

14. (Amended) The mutated *S. cerevisiae* cell as claimed in [one or more of claims 11 to] claim 13, which *S. cerevisiae* cell expresses heterologously a eukaryotic potassium channel.

15. (Amended) The mutated *S. cerevisiae* cell as claimed in [one or more of claims 11 to] claim 14, wherein the eukaryotic potassium channel is a human potassium channel.

16. (Amended) The mutated *S. cerevisiae* cell as claimed in [one or more of claims 11 to] claim 15, wherein the eukaryotic potassium channel is a HERG1, Kv1.5 or gplRK1.

17. (Amended) The mutated *S. cerevisiae* cell as claimed in [one or more of claims 11 to] claim 16, wherein the eukaryotic potassium channel is mutated.

19. (Amended) The use of a mutated *S. cerevisiae* cell as claimed in [one or more of claims 11 to] claim 17 for identifying substances which inhibit the activity of the eukaryotic potassium channel.

22. (Amended) A test kit [comprising] comprising a mutated *S. cerevisiae* cell as claimed in [any of claims 11 to] claim 17.

23. (Amended) A process for the preparation of a medicament, wherein with the aid of a process as claimed in [any of claims 1 to] claim 10,

- a) an inhibitor of a eukaryotic potassium channel is identified processes, and
- b) the inhibitor is prepared or isolated by known chemical inhibitor.
- c) physiologically acceptable additives are added to the

24. (Amended) A process for the preparation of a medicament, wherein with the aid of a process as claimed in [either of claims 20 and] claim 21,

- a) an activator of a eukaryotic potassium channel is identified processes, and
- b) the activator is prepared or isolated by known chemical activator.
- c) physiologically acceptable additives are added to the

REMARKS

Applicants respectfully request that the foregoing amendments to Claims 3-9, 14-17, 19, 22 and 23 be entered in order to avoid this application incurring a surcharge for the presence of one or more multiple dependent claims.

Respectfully submitted,

By 

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